

# EISCAT-3D collated requirements

- [Introduction to EISCAT-3D](#)
- [Requirements gathered](#)
  - [General requirements](#)
  - [Identification and citation](#)
  - [Curation](#)
  - [Cataloguing](#)
  - [Processing](#)
  - [Optimisation](#)
  - [Provenance](#)
  - [Community support](#)
- [Summary and conclusions](#)

## Introduction to EISCAT-3D

EISCAT\_3D (<https://eiscat3d.se/>) is a research infrastructure that uses incoherent scatter radar to study the Earth's ionosphere, contributing to geospatial environmental research.

EISCAT\_3D aims to establish a system of distributed phased array radars that enable comprehensive three-dimensional vector observations of the atmosphere and ionosphere above Northern Fenno-Scandinavia, a unique location for research into the polar atmosphere. The use of new radar technology, combined with the latest digital signal processing, will achieve ten times higher temporal and spatial resolution than obtained by present radars while simultaneously offering, for the first time, continuous measurement capabilities. The flexibility of the EISCAT\_3D system will allow the study of atmospheric phenomena at both large and small scales unreachable by the present systems. The new system will be implemented for a wide range of users and applications. It will allow studies to close the gap between space research and environmental research. The continuous data coverage will facilitate the inclusion of detailed incoherent scatter radar data into climate and Earth system modelling.

EISCAT\_3D is being constructed by EISCAT, the European Incoherent Scatter Scientific Association, which conducts research into the atmosphere and ionosphere at various levels using incoherent scatter radar.

## Requirements gathered

### General requirements

General requirements of EISCAT-3D

### Identification and citation

Identification and citation in EISCAT-3D

### Curation

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### Cataloguing

Cataloguing in EISCAT-3D

### Processing

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## Optimisation

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## Provenance

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## Community support

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## Summary and conclusions